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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,923	12/12/2003	Joe Berry	50345/RVW/V186	2251

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EXAMINER	
GAY, JENNIFER HAWKINS	

ART UNIT	PAPER NUMBER
3672	

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,923	JOE BERRY	
	Examiner	Art Unit	
	Jennifer H Gay	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract includes the implied phrase "are provided". Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-11, 13-34, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lund (US 4,850,439) in view of Putman et al. (US 4,274,778).

Regarding claim 1: Lund discloses a system for handling tubular body sections at a drill ring. The system includes the following features:

- A drill platform **11** having a derrick **10** extending upwards such that the drill platform and derrick form a drilling area.
- A first hoist **12** connected to an upper part of the derrick o passing a tubular body through a drilling opening **18** defined in the drill platform.
- At least one storage area **31, 32** arranged within the drill area for storing a plurality of tubular lengths where each length includes at least two releasably interconnected tubular body sections.
- At least one preparation opening **21** extending through the drill platform at a location that is spaced from the drill opening and from the at least one storage area.
- A torquing tool **25** for rotatably interconnecting tubular bodies at the at least one preparation opening to form tubular lengths.
- A first pipe-handling device (2:58-3:20) for transporting tubular bodies and tubular lengths from outside the drill area at the at least one preparation opening.
- A second pipe-handling device **22** for transporting tubular bodies between the at least one storage area and the first hoist.

Lund discloses all of the limitations of the above claims except for the first and second pipe-handling devices being disposed to allow the direct exchange of tubular lengths between them.

Putman et al. discloses a system for handling tubular body sections at a drill rig that is similar to that of Lund. Putman et al. further teaches a first **X** and second **Y** pipe-handling device where the devices are disposed to allow the direct exchange of tubular lengths **S** between them. The examiner notes that Putman et al. does not specifically state that tubular lengths are exchanged between the devices, however the devices are described as replacing the drilling crew where one person would be located at the top of the pipe rack to aid in loading tubular lengths into the elevator and one person would be located on the drill floor to receive the tubular lengths after connected to the elevator and move them to the rotary table. Since such an operation is the direct exchange of the

tubular lengths from one "handler" to another, the mechanical replacements would be known to function in the same manner.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the system of Lund such that the first and second pipe-handling devices were disposed to allow the direct exchange of tubular lengths between them as taught by Putman et al. in order to have reduced the need to a drill crew on the drill floor. This would have reduced the cost of the operation as well as reduced the safety concerns (4:1-15 of Putman et al.).

Regarding claims 2, 7, 25, 30: The first and second pipe-handling devices include an axially rotatable vertical strut **26** having at least one gripping device **24** attached thereto.

Regarding claims 3, 26: The at least one gripping device is designed to hoist the tubulars vertically.

Regarding claims 4, 27: The first and second pipe-handling devices include a hoist that is capable of lower in the gripping device outside the drill area to an outside tubular storage area (3:47-51).

Regarding claims 5, 28: The gripping device includes two vertically aligned gripping devices (Figure 1).

Regarding claims 6, 29: The gripping device is extendable radially outward from the axial center of the pipe-handling device (7:3-23).

Regarding claims 8, 9, 31, 32: The torquing tool is an iron roughneck that is rotatable about a vertical axis, the axial center of the pipe-handling device, and laterally extendable such that the tool is capable of engaging tubulars at both the drilling opening and the at least one preparation opening.

Regarding claims 10, 33: The at least one storage area is positioned between the drilling opening and the preparation opening.

Regarding claims 11, 34: The system includes two storage areas with the pipe-handling devices located between the two areas.

Regarding claims 13, 37: The derrick defines a first access opening **38** through which the pipe-handling device may grip tubulars outside the drill area.

Regarding claim 14: Lund further discloses a method for using the above system that involves the following steps (7:47-9:10):

- Transporting a plurality of tubular bodies from outside the drill area to the preparation opening in a vertical position using the first pipe-handling device.
- Forming tubular lengths be releasably interconnecting the plurality of tubular bodies with the torquing tool while one of the bodies extends through the preparation opening and another is suspended by means of the first pipe-handling device, and withdrawing the prepared tubular length from the preparation opening using the first device.
- Transporting the prepared length to the at least one storage area in a vertically position using the second pipe-handling device.
- Transporting tubular lengths form the storage area to the drilling opening in a vertical position using the second device.
- Releasably connecting the tubular lengths to the upper end of a drill stand suspended and successively lower the drill stand through the drilling opening using the first hoist.

Lund discloses all of the limitations of the above claims except for the first and second pipe-handling devices being disposed to allow the direct exchange of tubular lengths between them where the length is substantially vertical during the exchange.

Putman et al. discloses a system for handling tubular body sections at a drill rig that is similar to that of Lund. Putman et al. further teaches a first **X** and second **Y** pipe-handling device where the devices are disposed to allow the direct exchange of tubular lengths **S** between them where the tubular length is substantially vertical during the exchange (Figure 1). The examiner notes that Putman et al. does not specifically state that tubular lengths are exchanged between the devices, however the devices are described as replacing the drilling crew where one person would be located at the top of the pipe rack to aid in loading tubular lengths into the elevator and one person would be located on the drill floor to receive the tubular lengths after connected to the elevator and move them to the rotary table. Since such an operation is the direct exchange of the

tubular lengths from one "handler" to another, the mechanical replacements would be known to function in the same manner.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the system of Lund such that the first and second pipe-handling devices were disposed to allow the direct exchange of tubular lengths between them where the tubular length was substantially vertical during the exchange as taught by Putman et al. in order to have reduced the need to a drill crew on the drill floor. This would have reduced the cost of the operation as well as reduced the safety concerns (4:1-15 of Putman et al.).

Regarding claim 15, 16: The method further involves a third tubular body to be attached to the previous two by holding the first tubular body and a portion of the second tubular body below the drill platform and using the first device to connect the third tubular body to the exposed portion of the second tubular body.

Regarding claim 17: The three tubular bodies may be interconnected by holding the first body in the drilling opening, the second in the preparation opening, and interconnecting the third body to the second. The third and second bodies are then lifted by the first device and interconnected to the first body.

Regarding claims 18, 19: The system may be used to disconnecting the tubular bodies by performing the above steps in reverse.

Regarding claims 20-24: The tubular lengths may be drill pipe, bottomhole assembly parts, well casing, or production tubing and have an axial dimension that corresponds to the inner free height of the derrick.

5. Claims 12, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lund (US 4,850,439) in view of Putman et al. (US 4,274,778) as applied to claims 1 and 14 above, and further in view of Berry (US 5,107,940).

Regarding claims 12, 36: Lund and Putman et al. disclose all of the limitations of the above claims except for the system including a tubular ramp for transporting tubulars bodies form a storage area outside the drill area to the drill platform.

Berry discloses a wellbore pipe-handling system similar to that of Lund. Berry further teaches a ramp (Figure 1) for transporting tubular bodies from a storage area outside the drill area to the drill platform.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the system of Lund in view of Putman et al. to include a ramp as taught by Berry in order to have provided a means for easily moving horizontal tubulars to a vertical position. This would have allowed a larger number of tubulars to be stored near the system as the storage areas in the derrick itself would have had a limited amount of storage room.

Regarding claim 35: Lund and Putman et al. disclose all of the limitations of the above claims except for a third pipe-handling device for moving tubulars from an outside storage area to the first pipe-handling device.

Berry further teaches a third pipe-handling device (4:12-17) for moving tubular bodies from the outside storage area to an internal storage area where the bodies would be picked up by another pipe-handling device.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the system of Lund in view of Putman et al. to include a third pipe-handling device as taught by Berry in order to have provided a means for easily moving horizontal tubulars to a vertical position while still allowing the other pipe-handling devices to be used to interconnect tubular bodies already within the derrick.

Response to Arguments

6. In view of applicant's amendment, the previous objection to the abstract and the objections to the drawings and claims 6 and 14 have been withdrawn.

7. Applicant's arguments with respect to claims 1-37 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has argued that Lund does not teach a set of transport mechanisms that would act in cooperation to build, exchange, and store tubular body sections and lengths, i.e. that the two transport mechanisms taught by Lund are not designed to exchange tubing between them.

After a review of the Lund reference, the examiner agrees with applicant's assessment of the reference and has altered the rejection of claims 1-37 accordingly.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG
April 19, 2005